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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,304	06/24/2003	Stephen J. Caracci	WJT003-0037 (SP03-062)	1224
22928	7590	07/27/2005	EXAMINER	
CORNING INCORPORATED			GEISEL, KARA E	
SP-TI-3-1			ART UNIT	
CORNING, NY 14831			PAPER NUMBER	
			2877	

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/602,304

Applicant(s)

CARACCI ET AL.

Examiner

Kara E. Geisel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5,6,9-22,25,26 and 29-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5,6,9,10,18-22,25,26,29 and 30 is/are rejected.
- 7) ☒ Claim(s) 11-17 and 31-37 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 0603, 1104, 1204, 0305, 0705
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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## DETAILED ACTION

### *Election/Restrictions*

Applicant's election without traverse of claims 1-2, 5-6, 9-22, 25-26, and 29-37 in Paper filed June 27<sup>th</sup>, 2005 is acknowledged.

### *Information Disclosure Statements*

The information disclosure statements filed on June 24<sup>th</sup>, 2003, November 29<sup>th</sup>, 2004, December 27<sup>th</sup>, 2004, March 21<sup>st</sup>, 2005, and July 5<sup>th</sup>, 2005 have been considered by the examiner.

### *Claim Objections*

Claims 16 and 25 are objected to because of the following informalities: typographical error.

Claim 16, depends on itself. It appears applicant had wanted claim 16 to depend from claim 15.

In regards to claim 25, line 1, it appears that "collimating optic" was repeated. See claim 5.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2, 18-19, and 20-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Hoyt (US Pubs 2001/0046050).

In regards to claims 1 and 21, Hoyt discloses an optical interrogation system and method (fig. 1), comprising a light source for outputting a light beam (10), a diffractive optic for receiving the light beam and outputting an array of light beams (5), and a collimating optic (16) for receiving and conditioning the array of light beams and outputting the conditioned array of light beams which have desired optical properties towards a specimen array (13).

In regards to claims 2 and 22, the system further comprises a detector for receiving an array of light beams reflected from the specimen array (20).

In regards to claim 18, the optical interrogation system can be used to interrogate whatever the user wishes to interrogate.

In regards to claim 19, the system is used in Fluorescence spectroscopy (page 1, ¶ 2).

In regards to claim 20, the system can have optical frequencies that span across the entire usable electromagnetic frequency spectrum (page 3, ¶ 42).

Claims 1-2, 9, 18-19, 20-22 and 29 are rejected under 35 U.S.C. 102(e) as being anticipated by Oldham et al. (US Pubs 2003/0160957).

In regards to claims 1 and 21, Oldham discloses an optical interrogation system and method (fig. 8), comprising a light source for outputting a light beam (16), a diffractive optic for receiving the light beam and outputting an array of light beams (104), and a collimating optic (14) for receiving and conditioning the array of light beams and outputting the conditioned array of light beams which have desired optical properties towards a specimen array (24).

In regards to claims 2 and 22, the system further comprises a detector for receiving an array of light beams reflected from the specimen array (90).

In regards to claims 9 and 29, the system further comprises a beam reconditioning optic located between the light source and the diffractive optic used for controlling the numerical aperture, spot size,

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and angle of incidence of each light beam emitted from the collimating optic that impinges a plane of the specimen array (102).

In regards to claim 18, the optical interrogation system can be used to interrogate whatever the user wishes to interrogate.

In regards to claim 19, the system is used in Fluorescence spectroscopy (page 1, ¶ 2).

In regards to claim 20, the system can have optical frequencies that span across the entire usable electromagnetic frequency spectrum (page 4, ¶ 41).

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 5-6 and 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oldham et al. (US Pubs 2003/0160957) in view of Sato et al. (US Pubs 2003/0128437).

In regards to claims 5 and 25, Oldham discloses the optical interrogation system as discussed above. It is not disclosed that the collimating optic is a fiber array.

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Sato discloses a collimating optic (fig. 13, 50) that is a fiber array. Having a fiber array as the collimating optic, allows for more flexibility in design in where the light source is placed. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the collimating optic of Oldham's system with Sato's fiber array collimating optic in order to allow for more flexibility in placing the light source.

In regards to claims 6 and 26, the fiber array includes a plurality of fibers (25-28) which has one end connected to a grid (30). It is not disclosed that the other end is arranged in a sphere, however, this is merely a design choice, and furthermore, since the fiber bundle is used to collect light from the light source, it would be obvious to one of ordinary skill in the art to bundle the fibers as close together as possible, such as in a sphere, in order to collect most of the light coming from the light source.

Claims 10 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oldham et al. (US Pubs 2003/0160957) in view of Sampas (US Pubs 2003/0218746).

In regards to claims 10 and 30, Oldham discloses the optical interrogation system as discussed above. It is not disclosed that the system further comprises a wavelength tunable filter located between the light source and the diffractive optic.

Sampas discloses an optical interrogation system (fig. 1) including a light source (12) and a diffractive optic (18). A wavelength tunable filter can be located between the light source and the diffractive optic in order to improve the profile of the light coming from the light source, and to allow tuning of the light source to selected wavelengths (page 5, ¶ 51). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a wavelength tunable filter located between the light source and the diffractive optic of Oldham's system in order to improve the profile of the light coming from the light source, and to allow tuning of the light source to selected wavelengths.

*Allowable Subject Matter*

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Claims 11-17 and 31-37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

As to claims 11 and 31, the prior art of record, taken alone or in combination, fails to disclose or render obvious an optical interrogation system and a method for interrogating one or more specimens in a specimen array comprising a mask located between a collimating optic and a specimen array and used to block predetermined conditioned light beams from reaching selected specimens in the specimen array, in combination with the rest of the limitations of claims 11 and 31.

As to claims 13 and 33, the prior art of record, taken alone or in combination, fails to disclose or render obvious an optical interrogation system and a method for interrogating one or more specimens in a specimen array comprising a mask located between a detector and a specimen array and used to block predetermined light beams reflected from selected specimens in the specimen array, in combination with the rest of the limitations of claims 13 and 33.

As to claims 15 and 35, the prior art of record, taken alone or in combination, fails to disclose or render obvious an optical interrogation system and a method for interrogating one or more specimens in a specimen array comprising a swept angle detection system for receiving an array of light beams reflected from the specimen array, in combination with the rest of the limitations of claims 15 and 35.

As to claims 16 and 36, the prior art of record, taken alone or in combination, fails to disclose or render obvious an optical interrogation system and a method for interrogating one or more specimens in a specimen array comprising a swept angle launch system including a rotatable beam deflector located between a light source and a diffractive optic to control an angle of incidence of the light beam directed into the diffractive optic, in combination with the rest of the limitations of claims 16 and 36.

*Additional Prior Art*

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The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art made of record is Permogorov et al. (USPN 6,665,069).

Permogorov discloses an optical interrogation system comprising a swept angle detection system for receiving an array of light beams wherein the detection system comprises a rotating mirror for reflecting an array of light beams, an aperture plate having one hold through which passes selected light beams, an array of detectors for receiving the light beams through the aperture plate, and a data acquisition system for analyzing data received form the array of detectors.

### *Conclusion*


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kara E Geisel whose telephone number is **571 272 2416**. The examiner can normally be reached on Monday through Friday, 8am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on **571 272 2800 ext. 77**. The fax phone number for the organization where this application or proceeding is assigned is **571 273 8300**.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**HWA (ANDREW) LEE**  
**PRIMARY EXAMINER**

Gregory J. Toatley, Jr.

SPE

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for

K.G.

KEG

July 22, 2005